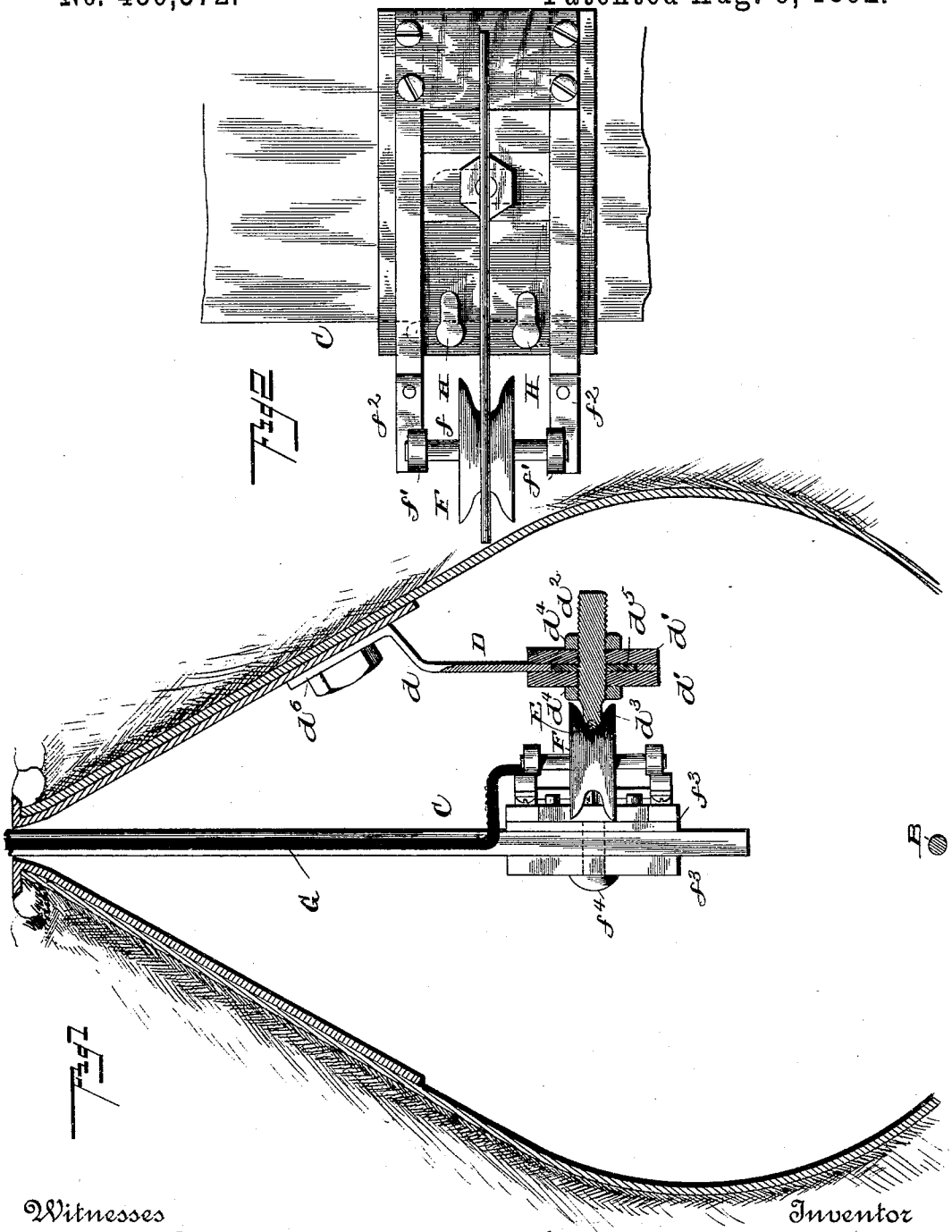
(No Model.) 3 Sheets—Sheet 1.

G. F. MYERS.

SYSTEM OF ELECTRIC LIGHTING.

No. 480,372. Patented Aug. 9, 1892.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 2.

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Fig 3

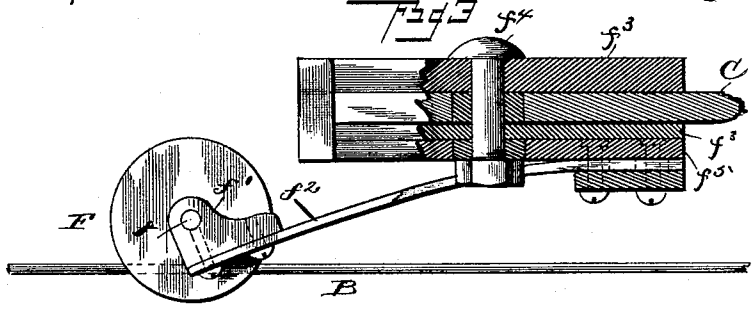


Fig 4

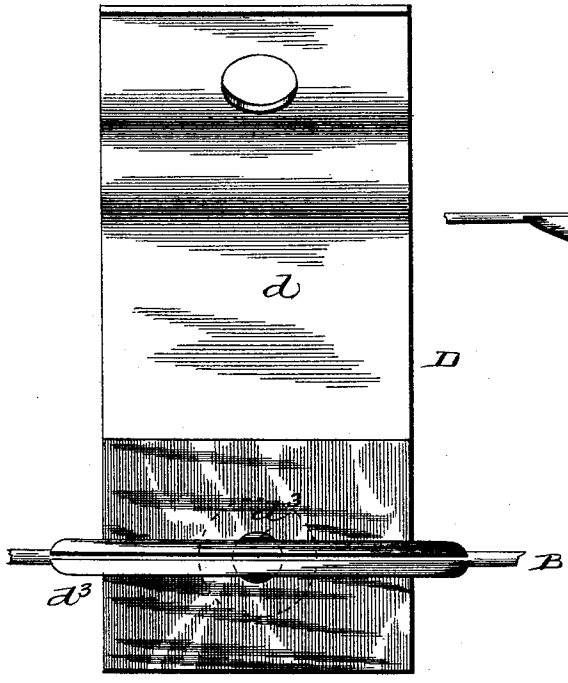
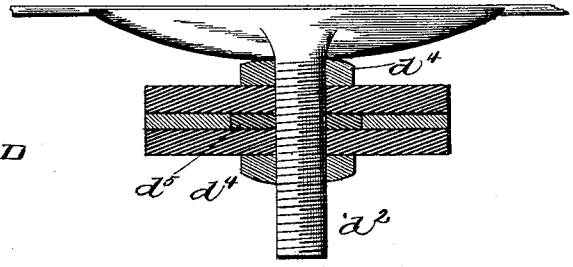


Fig 5



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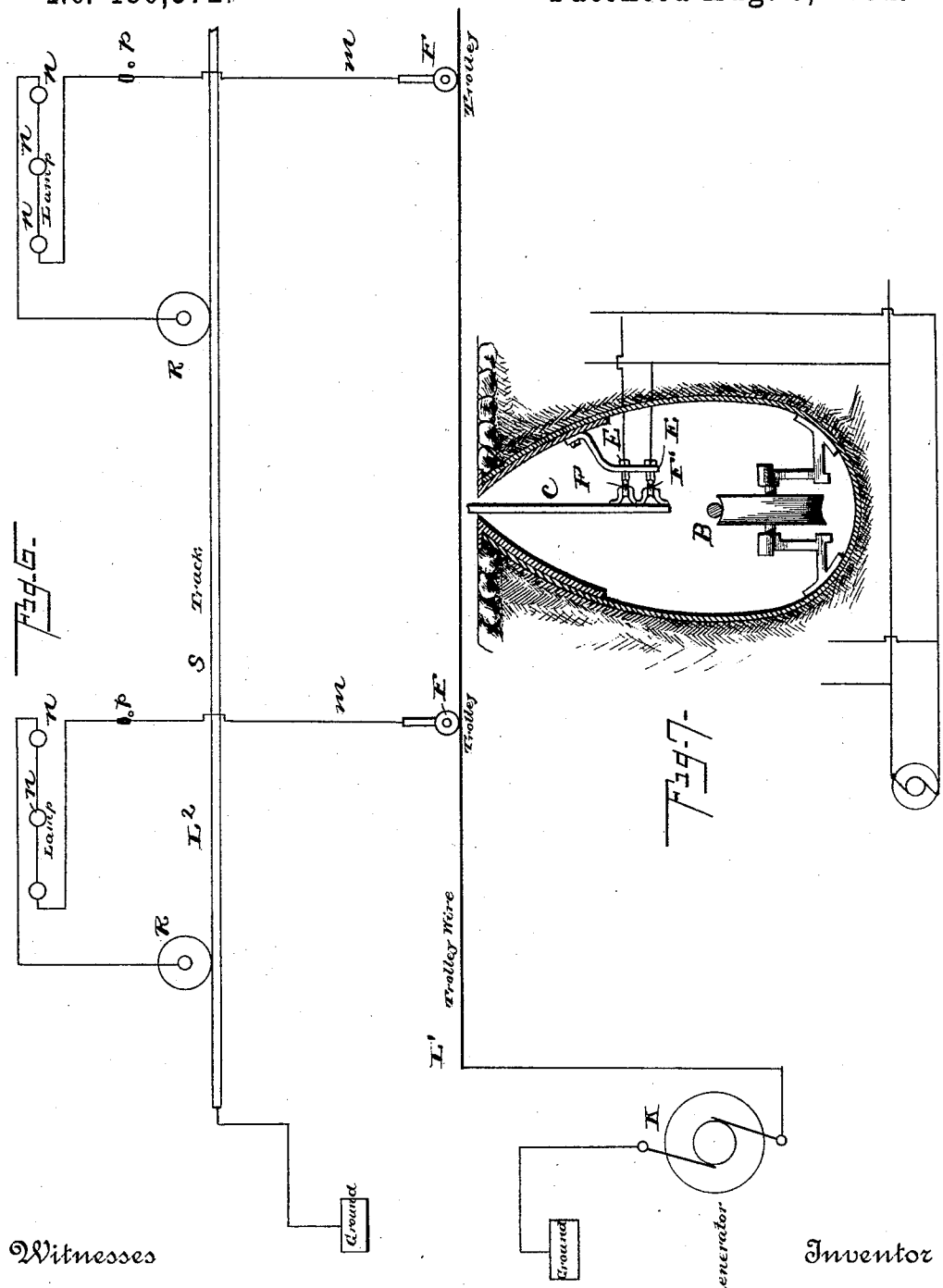

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UNITED STATES PATENT OFFICE.

GEORGE FRANCIS MYERS, OF PITTSBURG, PENNSYLVANIA.

SYSTEM OF ELECTRIC LIGHTING.

SPECIFICATION forming part of Letters Patent No. 480,372, dated August 9, 1892.

Application filed December 15, 1891. Serial No. 415,192. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FRANCIS MYERS, a citizen of the United States, residing in Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Systems of Electric Lighting, of which the following is a specification.

My invention relates particularly to a system of electric lighting, and is designed more especially for use in connection with cable railways.

The object of the invention is to provide means for supplying electric currents from a stationary source to the cars moving along a cable road, for operating electric lights, or for such other purposes as may be desired—as, for instance, electric heating, operating electric bells, &c.

The invention consists in certain details of construction of a current-collecting device, which will receive current from the conductors and deliver it to the current-consuming devices within the car, as required.

In the accompanying drawings I have illustrated an organization which will serve to clearly disclose the invention.

In the drawings, Figure 1 is a transverse section of a cable-conduit, showing the conductor in place and also showing a portion of a cable-grip arm equipped with a current-collecting device. Fig. 2 is a side view of the current-collector. Fig. 3 is a plan of the same, partly in section. Fig. 4 is a side elevation of an insulator supporting the conductor. Fig. 5 is a detail of one of the insulating-supports. Fig. 6 is a diagram of the system of circuits. Fig. 7 illustrates a modification.

Referring to the figures, A represents the wall of a cable-conduit, and B the cable used for propelling the cars in the usual manner, and C represents a portion of the arm employed for carrying the cable-grip. The grip itself may be of any suitable well-known construction and is not here shown in detail.

At suitable intervals within the conduit there are placed insulating-supports D for carrying an electric conductor E. The supports or insulators D may be of any suitable convenient construction. The form illustrated consists of a plate d, which may be of steel or other strong material, faced at its lower end upon both sides with insulating-plates d' d'. A bolt d^2, carrying the clamping plate d^3, for receiving the conductor E passes through the plates d and d' d', and it is fastened in place by clamping-nuts d^4. The opening through the plate d is of sufficient size to be entirely clear from the bolt d^2, and a washer or collar d^5 of insulating material may surround the bolt and fill this opening. The entire insulator is secured to the wall of the conduit by a bolt d^6 or in any other suitable manner.

The collecting device or trolley consists of a wheel F of brass or other suitable conducting material, mounted upon an axis or shaft f, which is carried in supports f' f'. The shaft may be stationary, the wheel turning upon it, or the wheel may be fastened to the shaft and the latter constructed to turn in the supports f' f'. These supports are respectively carried upon springs or yielding arms f^2 f^2, which are mounted upon but insulated from the grip-arm C. A convenient way of so mounting the arms f^2 f^2 is shown in the drawings, plates f^3 being placed upon opposite sides of the arm and secured thereto by an insulated bolt f^4, while the arms f^2 f^2 are riveted or bolted to a third plate f^5, which is also held in place against one of the plates f^3 by the bolt f^4, the trolley-wheel, its shaft, the supports f' f', and the springs f^2 f^2 being all of conducting material. The electric-circuit connections are continued from the conductor E to the ends of these arms, and from this point the connections are continued up through the slot at the top of the conduit and into the car in any convenient manner—as, for instance, by an insulated lead-covered conductor G, which is fastened to the edge of grip-arm C.

When it is not desired to use the electric current, the trolley-wheel may be fastened back, so as not to run upon the conductor E, by means of suitable latches H, carried by one of the plates f^3 of insulating material. This will save unnecessary wear of both the trolley and the conductor.

In case it should be desired to employ an insulated return-conductor, two trolley-wheels F and F′ may be carried by the grip-arm and two corresponding insulated conductors E and E′, supported by the insulators, as indicated in Fig. 7.

In Fig. 6 a diagram of the circuits is represented, K representing an electric generator, and L′ L² the outgoing and return conductors, respectively. The branch circuits leading into the cars along the track are represented by the conductors *m*. The connections from these conductors to the translating devices *n* may be made through any suitable circuit-closing devices or switches *p*. The return-circuit connections may be through the car-axles and wheels R to the rails S or through the special conductors.

I claim as my invention—

1. The combination, with a cable-railway conduit, its cable, and a moving vehicle having a grip-arm extending within the conduit, of an electric conductor extending through the conduit, a contact device for making connections with the electric conductor, and circuit connections therefrom, with translating devices located within the vehicle and a yielding support whereby the contact device is secured to the grip-arm and insulating-plates, a support for the conductor held in position by said insulating-plates, and a rigid support carrying said insulated plates, substantially as described.

2. The combination of a trolley or contact wheel for electric conductors, two flexible supporting-arms carrying the contact-wheel, a support to which the other ends of the flexible supporting-arms are attached, and latches carried by said support for engaging said flexible supporting-arms and holding said contact-wheel in an inoperative position.

In testimony whereof I have hereunto subscribed my name this 2d day of December, A. D. 1891.

GEO. FRANCIS MYERS.

Witnesses:

CHARLES A. TERRY,

HUBERT C. TENER.